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OCR
Oxford Cambridge and RSA

GCSE (9–1) Geography A (Geographical Themes)
J383/03 Geographical Skills
Sample Resource Booklet   Version 1.1

Time allowed: 1 hour 30 minutes

INFORMATION FOR CANDIDATES
- The questions tell you which resources you need to use.
- This document consists of **12** pages. Any blank pages are indicated.

INSTRUCTION TO EXAMS OFFICER/INVIGILATOR
- Do not send this Resource Booklet for marking, it should be retained in the centre or recycled. Please contact OCR Copyright should you wish to re-use this document.

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- Fig. 1 – OS map extract of Bradford
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- Fig. 7 – Physical map of Nigeria
- Fig. 8 – Photographs of Lagos in Nigeria

Fig. 1 – OS map extract of Bradford

Scale 1:50000

Communications

ROADS AND PATHS | VOIES DE COMMUNICATION | STRASSEN UND WEGE

Not necessarily rights of way

Service area | Elevated M1
Junction number 1 | En Viaduc / Erhöht
Motorway (dual carriageway)
Autoroute (chaussées séparées) avec aire de service et échangeur numéroté
Autobahn (zweibahnig) mit Servicestation und Anschlussstelle sowie Nummer der Anschlussstelle

Unfenced | Dual carriageway A 470
Sans clôture | Footbridge
Chaussées séparées / Zweibahnige Strasse
Primary Route / Itinéraire principal / Fernstrasse — Primary routes form a network of recommended through routes which complement the motorway system

A 493 | Passerelle / Fussgängerbrücke
Main road / Route principale / Hauptstrasse

Road under construction / Route en construction / Strasse im Bau

Nicht eingezäunt B 4518
Secondary road / Route secondaire / Nebenstrasse

A 855 | B 885
Narrow road with passing places / Route étroite avec voies de dépassement / Enge Strasse mit Ausweichstellen

Bridge / Pont / Brücke
Road generally more than 4m wide / Route généralement de plus de 4m de largeur / Strasse, im allg. über 4m breit

Road generally less than 4m wide / Route généralement de moins de 4m de largeur / Strasse, im allg. unter 4m breit

Other road, drive or track / Autre route, allée ou sentier / Sonstige Strasse, Zufahrt oder Feldweg

Path Sentier Fussweg

Gradient: steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5)
Pente: Supérieure à 20% (1 pour 5), 14% à 20% (1 pour 7 à 1 pour 5)
Steigung über 20%, 14% bis 20%

Gates / Barrières / Schranken
Road tunnel / Tunnel routier / Strassentunnel

Ferry P | Ferry V
Ferry (passenger) / Bac pour piétons / Personenfähre
Ferry (vehicle) / Bac pour véhicules / Autofähre

Tourist Information

TOURIST INFORMATION | RENSEIGNEMENTS TOURISTIQUES | TOURISTENINFORMATION

Viewpoint / Point de vue / Aussichtspunkt

V — Visitor centre / Centre pour visiteurs / Besucherzentrum

! — Walks / Trails / Promenades / Wanderwege

Nature reserve / Réserve naturelle / Naturschutzgebiet

P — Parking / Parking / Parkplatz

▲ — Youth hostel / Auberge de jeunesse / Jugendherberge

Golf course or links / Terrain de golf / Golfplatz

Garden / Jardin / Garten

Camp site/caravan site / Terrain de camping/Terrain pour caravanes / Campingplatz/Wohnwagenplatz

Selected places of tourist interest / Endroits d'un intérêt touristique particulier / Ausgewählter Platz von touristischem Interesse

i — Information centre, all year / seasonal / Office de tourisme, ouvert toute l'année / en saison / Informationsbüro, ganzjährig / saisonal

Picnic site / Emplacement de pique-nique / Picknickplatz

P&R / P&R — Park & Ride, all year / seasonal / Parking et navette, ouvert toute l'année / en saison / Park & Ride, ganzjährig / saisonal

Telephone, public / roadside assistance / Téléphone, public / borne d'appel d'urgence / Telefon, öffentlich / Notrufsäule

Recreation / leisure / sports centre / Centre de détente / loisirs / sports / Erholungs- / Freizeit- / Sportzentrum

World Heritage site/area / Site du Patrimoine Mondial / Welterbestätte

General Information

LAND FEATURES

Cutting, embankment | Landfill site or slag/spoil heap
Electricity transmission line (pylons shown at standard spacing) | Coniferous wood
Pipe line (arrow indicates direction of flow) | Non-coniferous wood
Buildings | Mixed wood
Important building (selected) | Orchard
Bus or coach station | Park or ornamental ground
Glass Structure | Forestry Commission land
Heliport | National Trust-always open
Current or former place of worship; with tower / with spire, minaret or dome | National Trust-limited access, observe local signs
Place of worship | National Trust for Scotland - always open
Triangulation pillar | National Trust for Scotland - limited access, observe local signs
Mast
Wind pump, wind turbine
Windmill with or without sails
Graticule intersection at 5' intervals

WATER FEATURES — Contour values in lakes are in metres

Marsh or salting — Slopes — Cliff — High water mark
Towpath — Lock — Low water mark
Aqueduct — Canal — Ford — Flat rock — Lighthouse (in use)
Weir — Sand — Beacon
Lake — Footbridge — Bridge — Normal tidal limit — Dunes — Lighthouse (disused) — Shingle
Canal (dry) — Mud

HEIGHTS

50 — Contours are at 10 metres vertical interval
·144 — Heights are to the nearest metre above mean sea level

Surface heights are to the nearest metre above mean sea level. Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the highest natural summit.

ABBREVIATIONS — See our website for full list

CH	Clubhouse	CG	Cattle grid
PH	Public house	P	Post office
PC	Public convenience (in rural area)	MP	Milepost
TH	Town hall, Guildhall or equivalent	MS	Milestone

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

+ — Site of antiquity | VILLA — Roman | Battlefield (with date)
✸ — Visible earthwork | Castle — Non-Roman

Information provided by English Heritage for England and the Royal Commissions on the Ancient and Historical Monuments for Scotland and Wales

ROCK FEATURES

Outcrop — Cliff — Scree

Fig. 2 - GIS (Geographical Information System) maps with information about Bradford

Fig. 3 – Choropleth map showing distribution of Pakistani ethnicity across UK regions

Scotland

Northern
Ireland

North
East

North
West

Yorkshire
and
Humberside

East
Midlands

West
Midlands

East of
England

Wales

London

South East

South West

Proportion of Regional
population claiming
Pakistani ethnicity (%)

	2.40 +
	1.80 - 2.39
	1.20 - 1.79
	0.60 - 1.19
	0 - 0.59
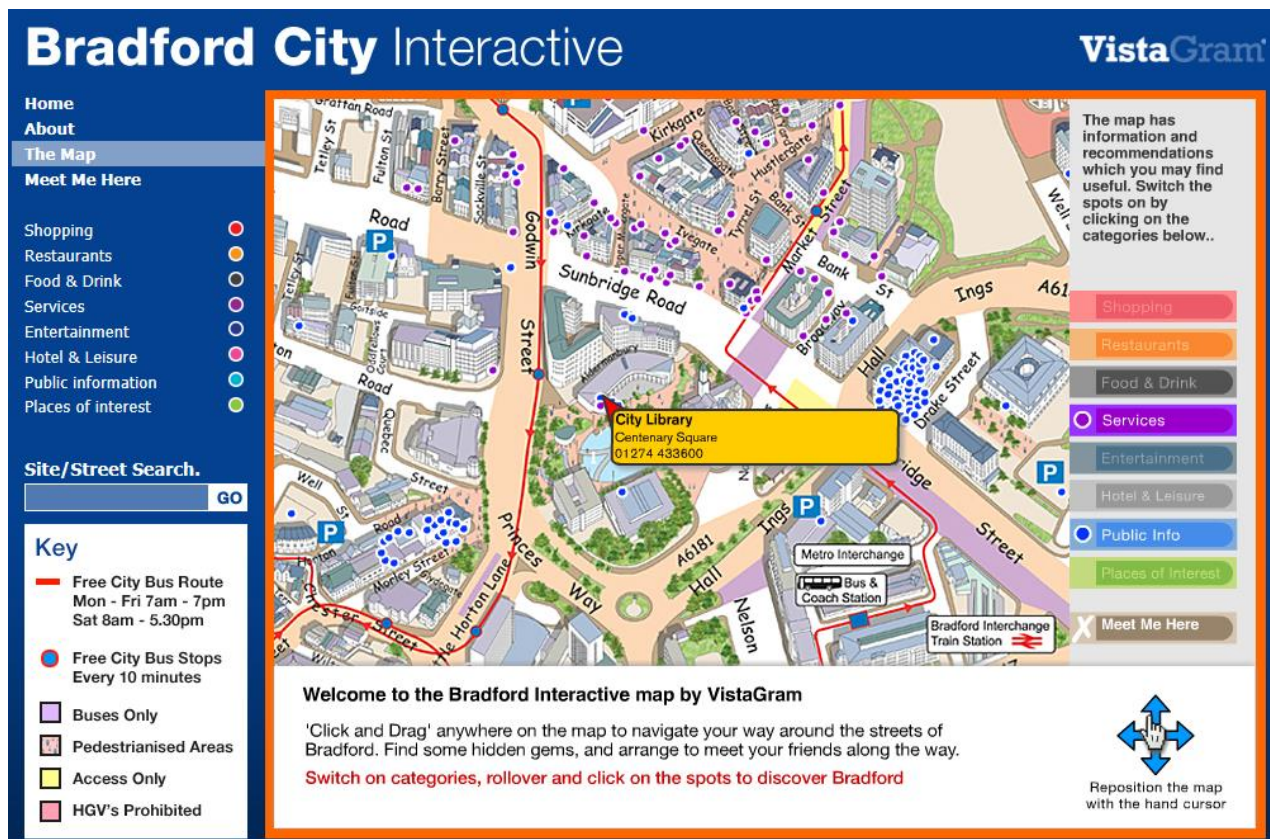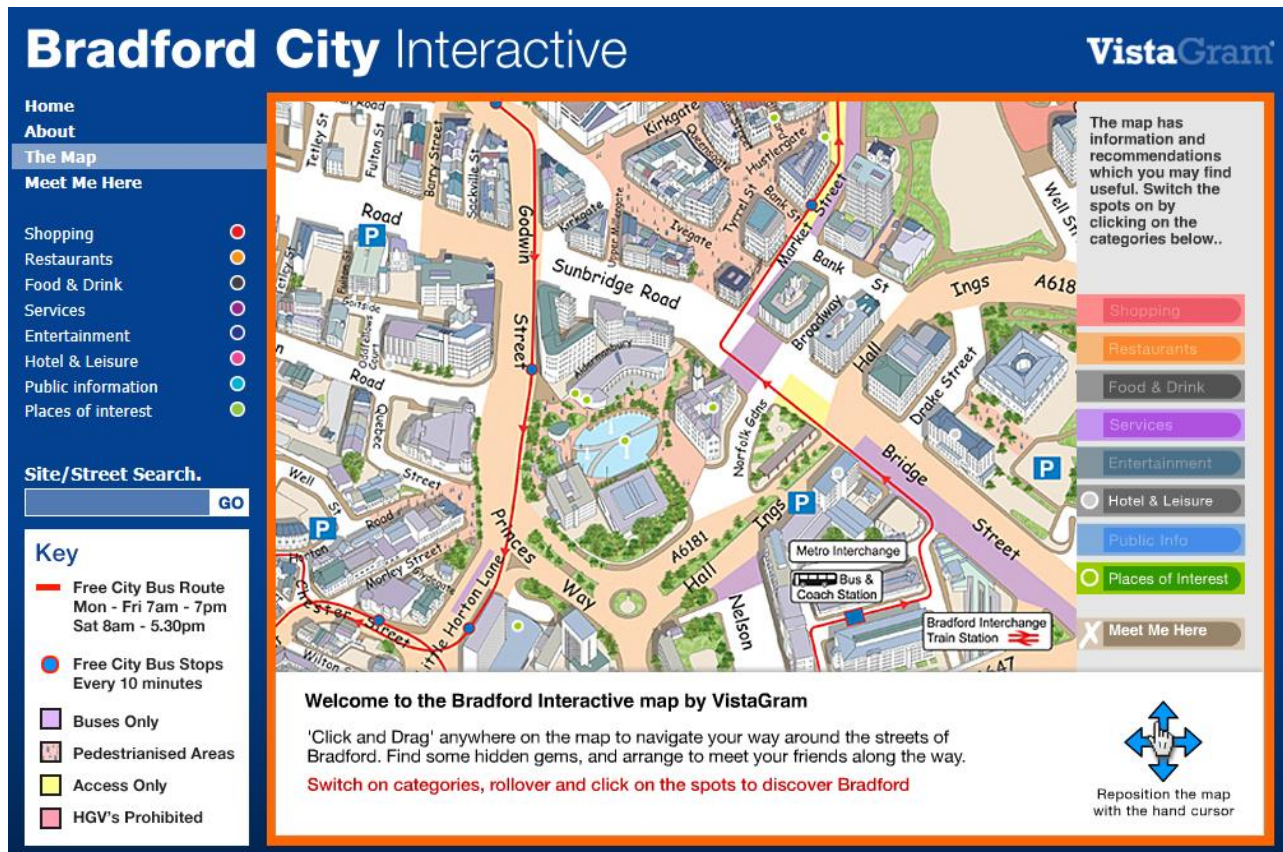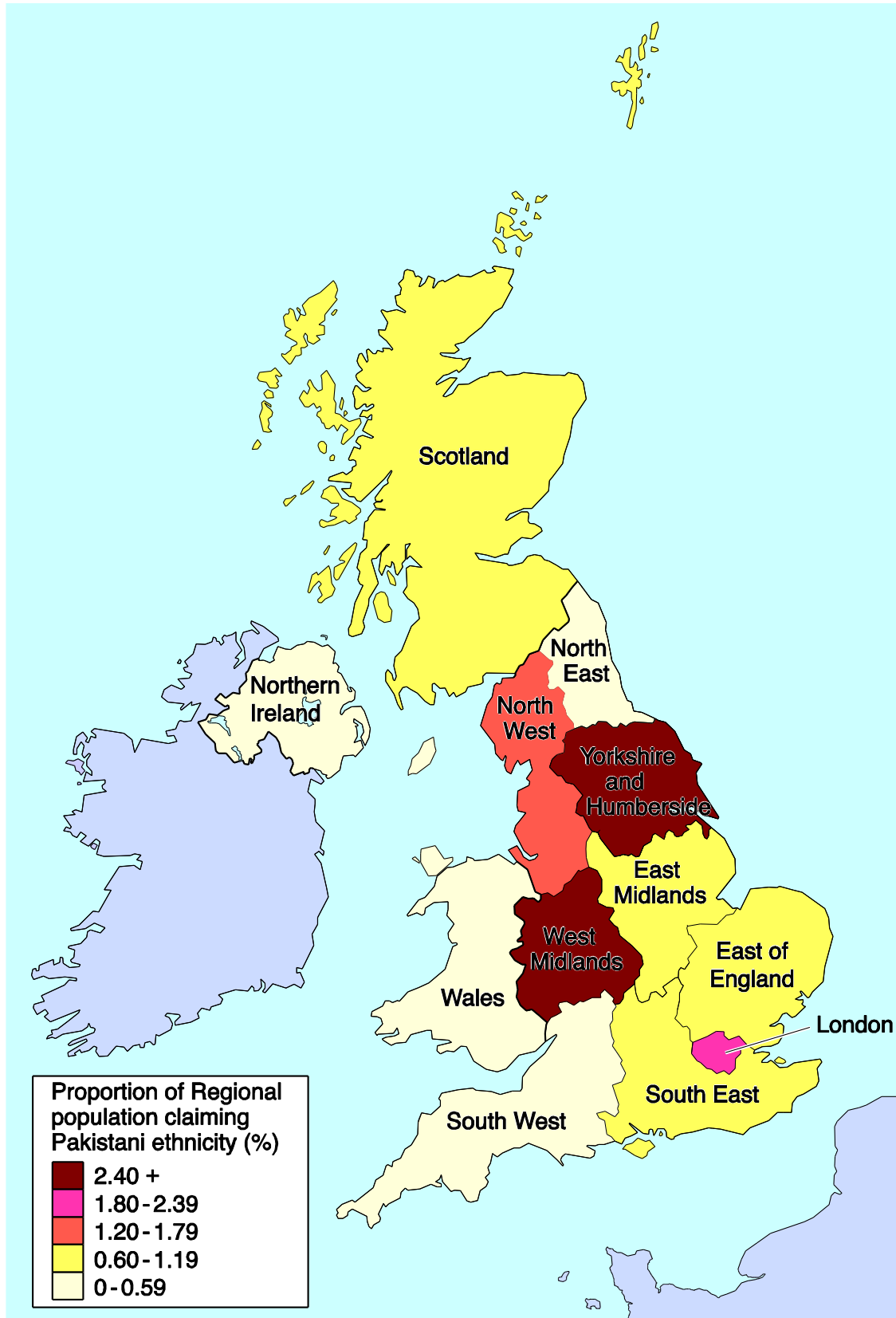
Fig. 4 – Components of population change in Bradford between 2009 and 2010

	2009-10
Population at start of period	**506,800**
Births	8,700
Deaths	4,300
Natural Change (births minus deaths)	**4,400**
International migration inflows	6,500
International migration outflows	2,000
Internal migration inflows	13,800
Internal migration outflows	16,800
Net migration	**1,500**
Total population change	**5,900**
Population at end of period	**512,700**

Fig. 5 – Population projections for Bradford

Projected Population: Bradford District 2010 - 2033
Source: Office for National Statistics
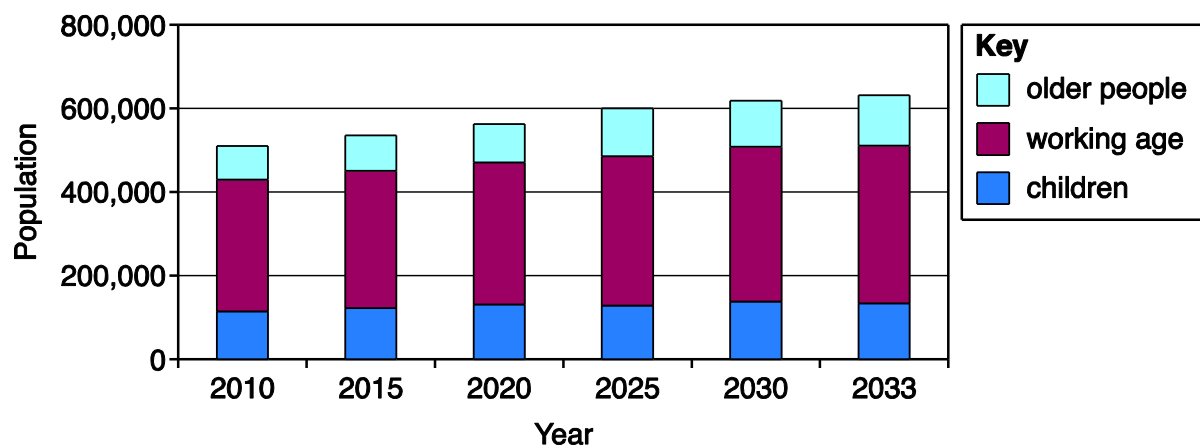
Fig. 6 – Average household electricity consumption for selected UK cities (KWh)

DUNDEE 1229

GLASGOW 1234

NEWCASTLE 1037

DURHAM 1035

BRADFORD 1100

NOTTINGHAM 1028

WORCESTER 1232

COVENTRY 1361

LONDON 969

SALISBURY 1218

TRURO 1255

PLYMOUTH 1247

Key

Energy consumption in kilowatts per hour

Fig. 7 – Physical map of Nigeria

Key

● Capital city

Metres above sea level

▮	1525–3050
▮	610–1525
▮	305–610
▮	153–305
▮	0–153
▮	Sea Level

0 75 150 km

Fig. 8 – Photographs of Lagos in Nigeria

10
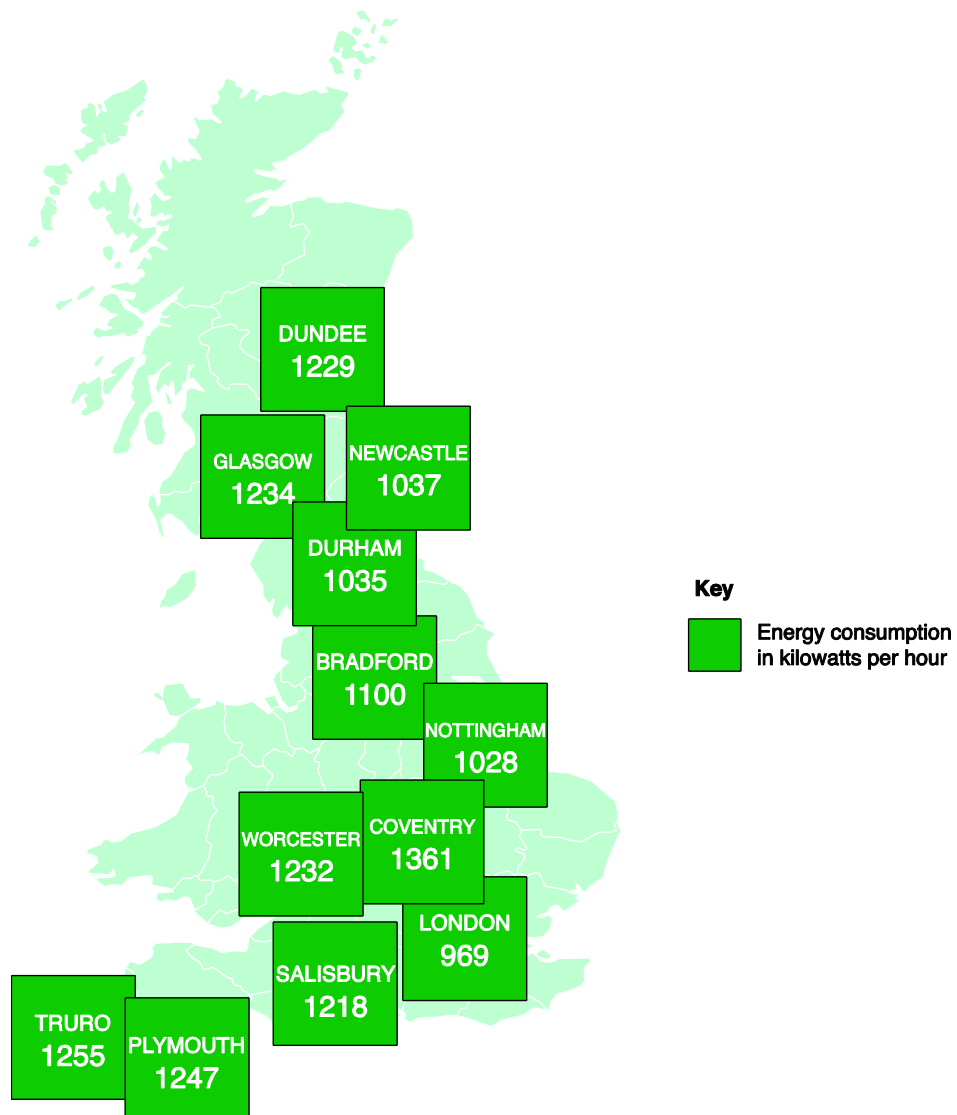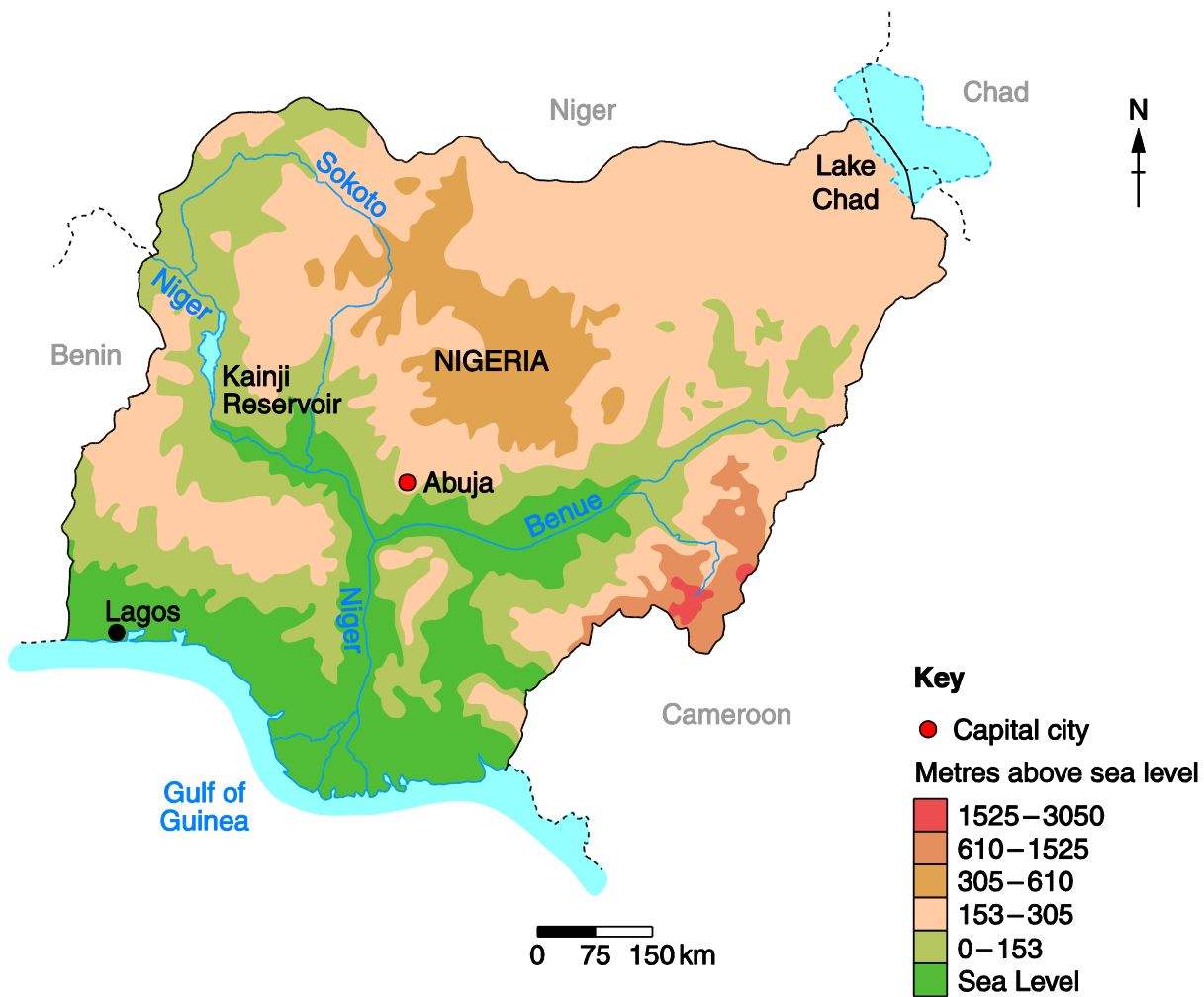
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Summary of updates

Date	Version	Details
July 2021	1.1	Updated copyright acknowledgements.

Copyright Information:

Fig. 1: © Crown copyright (2015), Ordnance Survey (100043707)
Fig. 2: Bradford City Interactive map, www.bradford-interactive.org, accessed Mar 2015. © Silvermaze 2009
Fig. 4: Extract from Bradford City Council, "Bradford Power: 2020 and beyond Renewable Futures for Bradford Council" for Environment and Waste Management Overview and Scrutiny Committee, BRADFORD CITY COUNCIL. © Crown Copyright. Reproduced under the terms of the Open Government Licence v3.0.
Fig. 5: Extract from Bradford City Council, "Bradford Power: 2020 and beyond Renewable Futures for Bradford Council" for Environment and Waste Management Overview and Scrutiny Committee, BRADFORD CITY COUNCIL. © Crown Copyright. Reproduced under the terms of the Open Government Licence v3.0.
Fig. 8: Two photos of Lagos, Nigeria © peeterv / Getty Images. www.gettyimages.co.uk Reproduced with permission.
Reuters News & Media Ltd

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Oxford Cambridge and RSA

GCSE (9–1) Geography A (Geographical Themes)
J383/03 Geographical Skills
Sample Question Paper

Date – Morning/Afternoon
Time allowed: 1 hour 30 minutes

You must have:
• the Resource Booklet

You may use:
• a ruler (cm/mm)
• a piece of string
• a scientific or graphical calculator

SPECIMEN

First name	
Last name	
Centre number			Candidate number	

INSTRUCTIONS
• Use black ink. You may use an HB pencil for graphs and diagrams.
• Complete the boxes above with your name, centre number and candidate number.
• Answer **all** the questions.
• Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
• Do **not** write in the barcodes.
• The separate Resource Booklet will be found inside this document.

INFORMATION
• The total mark for this paper is **80**.
• The marks for each question are shown in brackets **[ ]**.
• Quality of extended responses will be assessed in questions marked with an asterisk (*****).
• Spelling, punctuation and grammar and the use of specialist terminology (SPaG) will be assessed in questions marked with a pencil (✏).
• This document consists of **20** pages.

2

Section A – Geographical Skills.

Answer **all** the questions.

1 Study **Fig. 1** in the separate Resource Booklet, an OS map extract of Bradford.

(a) (i) In which general direction would you be travelling if you were approaching Bradford from the junction of the M62/M606 motorways?

A East
B North West
C South
D South East

Write the correct letter in the box. ☐

[1]

(ii) What is the approximate length of the M606 motorway from its junction with the M62 (182 268), to its junction with the A6177 (166 303)?

A 4km
B 5km
C 8km
D 12km

Write the correct letter in the box. ☐

[1]

(b) Geographical Information Systems (GIS) can provide useful information about the geography of an area. Study **Fig. 2** in the separate Resource Booklet, GIS maps with information about Bradford.

(i) Using **Fig. 2** identify **one** piece of evidence that this area contains Bradford's city centre.

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[1]

(ii) Explain why a GIS map, such as the one in **Fig. 2**, might be more useful for a visitor to Bradford than the OS map extract, such as the one in **Fig. 1**.

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[2]

3

(c) Study **Fig. 3** in the separate Resource Booklet, a choropleth map showing distribution of Pakistani ethnicity across UK regions.

Suggest **two** reasons why the information represented on this map might be misleading.

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[2]

(d) Study the table below, which shows types of households in Bradford and the number of households in each category.

Types of Households	Number of Households
Owned	129 550
Social Rented	29 513
Private Rented	36 020
Living Rent Free	2 998
Total	198 081

Describe the pattern of the types of households in Bradford.
Use data from the table in your answer.

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[4]

2 Study the graph below, which shows how the total fertility rate in Bradford changed between 2000 and 2010.
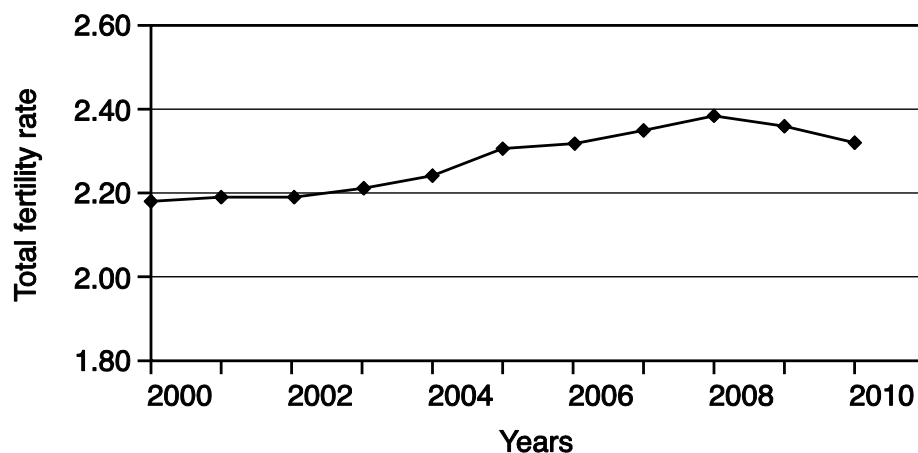
(a) Describe the trends in the total fertility rate over the period shown.

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[3]

(b) Study **Fig. 4** in the separate Resource Booklet, a table showing components of population change in Bradford between 2009 and 2010.

Describe the contribution of migration to the total population change in Bradford between 2009 and 2010.

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[3]

(c) Study **Fig. 5** in the separate Resource Booklet, a graph showing population projections for Bradford.

Explain the challenges that could be caused by the changing population in Bradford as shown in **Fig. 5**.

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[4]

(d) Changing populations can affect levels of energy supply and demand.

Study **Fig. 6** in the separate Resource Booklet, a map showing the average household electricity consumption for selected UK cities.

(i) Calculate the difference between the average household energy consumption for Bradford and Plymouth.

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[1]

(ii) Calculate the range of average electricity consumption for the cities shown in **Fig. 6**.

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[1]

(iii) Suggest **one** improvement that could be made to the data presentation technique shown in **Fig. 6**.

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[1]

(iv) Study the extract below.

Future renewable energy projects in Bradford's District:

- **Wind turbines** could have a large role in the District's energy supply. The Ovenden Moor 'Repower' scheme will probably generate 49,000MWh* yearly from nine new planned turbines.
- **Solar power** is already being used by the Council, with more solar projects planned. It is also a relatively simple technology to install across the Bradford council buildings, with a long lifetime and small costs to keep it working.
- **Biomass boilers** offer a more sustainable choice than gas for heating buildings. This is an option that the Council and the District's 200 schools should like.
- **Hydro-electric power (HEP)** projects in Bradford's District could create 14,000MWh of power every year.

Adapted Extract from 'Bradford Power: 2020 and beyond'

*MWh = megawatts per hour

Assess how population increase in the city of Bradford could affect the demand for renewable energy projects, such as those outlined in the extract.

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[6]

3 **(a)** Study **Fig. 7** in the separate Resource Booklet, a physical map of Nigeria.

    (i) Which region of Nigeria contains the most mountainous landscape?

        A   North

        B   North East

        C   South West

        D   West

    Write the correct letter in the box. ☐

              [1]

    (ii) What style of graph would most clearly show how the relief changes from Abuja to Lake Chad?

        A   Cross-section

        B   Horizontal bar

        C   Radial

        D   Scatter

    Write the correct letter in the box. ☐

              [1]

(b) Lagos is the largest city in Africa, with an estimated 21 000 000 people living in the city, whilst the capital city of Nigeria, Abuja, has only 3 000 000 people living there.

What is the ratio 21 000 000:3 000 000 in its simplest form?

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              [1]

(c) Study **Fig. 8,** the photographs of Lagos in Nigeria.

Using **Fig. 8**, identify **one** characteristic from the photographs that shows Lagos is a city in an LIDC.
Give reasons for your answer.

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              [3]

(d) Study the table below.

Scale of urban challenges in selected megacities

City / Challenge	Hong Kong (China)	Tokyo (Japan)	Seoul (S.Korea)	Istanbul (Turkey)	London (UK)	New York (USA)	Lagos (Nigeria)
Informal Settlements	0	1	0	1	0	0	3
Traffic Management	2	1	1	1	1	0	3
Natural Hazards	0	1	1	3	1	1	1
Water Management	2	1	0	1	0	0	3
Electricity Supply	0	1	0	0	0	0	3
Waste Disposal	2	1	0	3	0	1	2
Air and Water pollution	2	1	0	1	2	1	3
Overall Score (magnitude of challenges)	**8**	**7**	**2**	**10**	**4**	**3**	**18**

0= few challenges
3= many challenges

Outline the evidence that suggests Lagos has the most severe urban challenges of the cities shown.

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[3]

(e)* 'Cities in the UK face challenges which are less serious than cities in LIDCs or EDCs.'

To what extent do you agree with this statement?

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[8]

Section B – Geographical Fieldwork

Answer **all** the questions.

4 Some Geography students have been conducting **human geography** fieldwork in Bradford city centre. They intend to investigate urban traffic issues.

The first question of the students' questionnaire is shown below.

How far have you travelled today?	1-2	2-4	4-6

(a) **(i)** Suggest **two** problems with the students' first question.

1 ……………………………………………………………………………………………

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2 ……………………………………………………………………………………………

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[2]

(ii) Identify **one** other question you might want to add to the students' questionnaire investigating urban traffic issues.

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[1]

(b) As part of the students' investigation into urban traffic issues they researched the number of car parking spaces in Bradford city centre. The data they collected is in the table below:

Name of Car Park	Number of parking spaces
Burnett Street	116
Crown Court	180
Pine Street	60
Radwell Drive	105
Rawson Road	33
Sharpe Street	98
Simes Street	77
St Thomas	132
Tyson Street	110
Westgate	404
Wigan Street	43

Calculate the upper quartile value of the dataset.
You must show your working out.

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[3]

12

(c) Refer back to **Fig. 2** in the separate Resource Booklet.

The students conducted a traffic count at a series of 20 sites in the area shown in **Fig. 2**, GIS maps with information about Bradford.

Traffic was counted for five minutes at each site.

The results for four of the sites are shown in the table below.

Site/ Traffic type	Cars/Taxis	Buses/Coaches	Motorbikes	Lorries	**Total**
Hall Ings	67	4	0	2	73
Princes Way	181	4	1	6	192
Bridge St	102	14	1	2	119
Market St	32	2	0	1	35

Describe **one** way this data might be presented in a fieldwork investigation and explain why you have selected this data presentation method.

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[6]

(d)* Study the tables and graphs below which display the results of their questionnaire asked to local residents.

Table 1: Time of the day which congestion is more prominent		
Time	**Frequency**	**Percentage**
6am – 8am	15	9.6
8am – 10am	72	46.2
10am – 12pm	3	1.9
12pm – 2pm	9	5.8
2pm – 4pm	3	1.9
4pm -6pm	54	34.6
Total	156	100

Table 2: Causes of traffic congestion in the study area		
Causes of traffic congestion	**Frequency**	**Percentage**
Too narrow road	42	26.9
Vehicle breakdown	12	7.7
Loading and off-loading of goods and passengers on the road	54	34.6
Indiscriminate Parking	12	7.7
On-street trading	12	7.7
Lack of a bus terminal	20	12.8
Other	4	2.6
Total	156	100

Graph 1: Days of the week in which congestion is most prominent

Traffic flow over one week

14
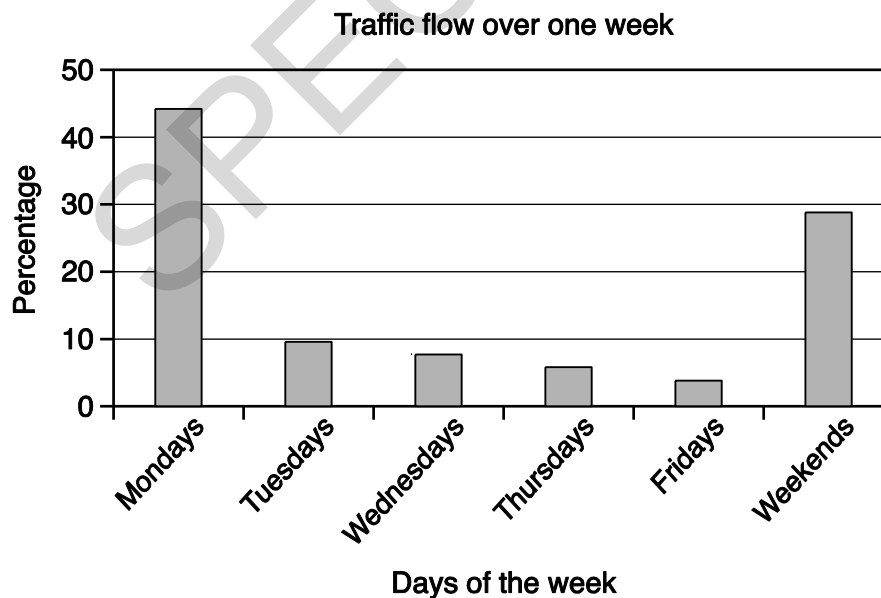
Suggest a conclusion that the students' might reach for the enquiry question 'How do patterns of congestion vary in Bradford?'. Analyse the evidence from the information provided to explain how you have reached that conclusion.

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[8]

✎ Spelling, punctuation and grammar and the use of specialist terminology **[3]**

5 You will have taken part in fieldwork in a **physical geography** environment as part of your studies. Examples might include a river or a coastal area.

State your fieldwork question for investigation:

……………………………………………………………………………………………………….

……………………………………………………………………………………………………….

Location of study area: ……………………………………………………………………………

(a) Explain the suitability of **one** key question or hypothesis that you chose to help answer your fieldwork question for investigation.

Key question/hypothesis: …………………………………………………………………………

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[4]

SPECIMEN

16

(b) Evaluate to what extent **one** method you used to collect your primary fieldwork data was a success.

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[6]

17

ADDITIONAL ANSWER SPACE

If you use this lined space to complete the answer to any question(s), the question number(s) **must** be clearly shown.

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18

19

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20
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OCR
Oxford Cambridge and RSA

…day June 20XX – Morning/Afternoon

GCSE (9–1) Geography A (Geographical Themes)

J383/03   Geographical Skills

SAMPLE MARK SCHEME

Duration: 1 hour 30 minutes

MAXIMUM MARK   80

SPECIMEN

This document consists of 24 pages

MARKING INSTRUCTIONS

PREPARATION FOR MARKING

SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris assessor Online Training*; *OCR Essential Guide to Marking*.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal http://www.rm.com/support/ca

3. Log-in to scoris and mark the **required number** of practice responses ("scripts") and the **required number** of standardisation responses.

   YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the scoris 50% and 100% (traditional 50% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the scoris messaging system.

5.   Work crossed out:
     a.   where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
     b.   if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6.   Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.

7.   There is a NR (No Response) option. Award NR (No Response)
     -    if there is nothing written at all in the answer space
     -    OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
     -    OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question.
     Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

8.   The scoris **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
     If you have any questions or comments for your Team Leader, use telephone, email or the scoris messaging system.

9.   Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

10. **Annotations**

Annotation	Meaning

11. **Subject-specific Marking Instructions**

INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper and its rubrics
- the mark scheme.

You should ensure that you have copies of these materials.

You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet **Instructions for Examiners**. If you are examining for the first time, please read carefully **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

USING THE MARK SCHEME

Please study this Mark Scheme carefully. The Mark Scheme is an integral part of the process that begins with the setting of the question paper and ends with the awarding of grades. Question papers and Mark Schemes are developed in association with each other so that issues of differentiation and positive achievement can be addressed from the very start.

This Mark Scheme is a working document; it is not exhaustive; it does not provide 'correct' answers. The Mark Scheme can only provide 'best guesses' about how the question will work out, and it is subject to revision after we have looked at a wide range of scripts.

The Examiners' Standardisation Meeting will ensure that the Mark Scheme covers the range of candidates' responses to the questions, and that all Examiners understand and apply the Mark Scheme in the same way. The Mark Scheme will be discussed and amended at the meeting, and administrative procedures will be confirmed. Co-ordination scripts will be issued at the meeting to exemplify aspects of candidates' responses and achievements; the co-ordination scripts then become part of this Mark Scheme.

Before the Standardisation Meeting, you should read and mark in pencil a number of scripts, in order to gain an impression of the range of responses and achievement that may be expected.

In your marking, you will encounter valid responses which are not covered by the Mark Scheme: these responses must be credited. You will encounter answers which fall outside the 'target range' of Bands for the paper which you are marking. Please mark these answers according to the marking criteria.

Please read carefully all the scripts in your allocation and make every effort to look positively for achievement throughout the ability range. Always be prepared to use the full range of marks.

LEVELS OF RESPONSE QUESTIONS:

The indicative content indicates the expected parameters for candidates' answers, but be prepared to recognise and credit unexpected approaches where they show relevance.

Using 'best-fit', decide first which set of level descriptors best describes the overall quality of the answer. Once the level is located, adjust the mark concentrating on features of the answer which make it stronger or weaker following the guidelines for refinement.

Highest mark: If clear evidence of all the qualities in the level descriptors is shown, the HIGHEST Mark should be awarded.

Lowest mark: If the answer shows the candidate to be borderline (i.e. they have achieved all the qualities of the levels below and show limited evidence of meeting the criteria of the level in question) the LOWEST mark should be awarded.

Middle mark: This mark should be used for candidates who are secure in the level. They are not 'borderline' but they have only achieved some of the qualities in the level descriptors.

Be prepared to use the full range of marks. Do not reserve (e.g.) highest level marks 'in case' something turns up of a quality you have not yet seen. If an answer gives clear evidence of the qualities described in the level descriptors, reward appropriately.

	AO1	AO2	AO3
Comprehensive	A range of detailed and accurate knowledge that is fully relevant to the question.	A range of detailed and accurate understanding that is fully relevant to the question.	Detailed and accurate interpretation through the application of relevant knowledge and understanding. Detailed and accurate analysis through the application of relevant knowledge and understanding. Detailed and substantiated evaluation through the application of relevant knowledge and understanding. Detailed and substantiated judgement through the application of relevant knowledge and understanding.
Thorough	A range of accurate knowledge that is relevant to the question.	A range of accurate understanding that is relevant to the question.	Accurate interpretation through the application of relevant knowledge and understanding. Accurate analysis through the application of relevant knowledge and understanding. Supported evaluation through the application of relevant knowledge and understanding. Supported judgement through the application of relevant knowledge and understanding.
Reasonable	Some knowledge that is relevant to the question.	Some understanding that is relevant to the question.	Some accuracy in interpretation through the application of some relevant knowledge and understanding. Some accuracy in analysis through the application of some relevant knowledge and understanding. Partially supported evaluation through the application of some relevant knowledge and understanding. Partially supported judgement through the application of some relevant knowledge and understanding.
Basic	Limited knowledge that is relevant to the topic or question.	Limited understanding that is relevant to the topic or question.	Limited accuracy in interpretation through lack of application of relevant knowledge and understanding. Limited accuracy in analysis through lack of application of relevant knowledge and understanding. Un-supported evaluation through lack of application of knowledge and understanding. Un-supported judgement through lack of application of knowledge and understanding.

Question			Answer	Marks	Guidance
1	(a)	(i)	B: North West (✓)	1	(✓)
		(ii)	A: 4km (✓)	1	(✓)
	(b)	(i)	**Evidence:** Location of bus and coach station (✓)/train station (✓)/city library (✓), high building density (✓)	1	(✓) Evidence must be evident in **Fig. 2** of the separate Resource Booklet, not the OS map extract in **Fig. 1**
		(ii)	**Might be more useful because:** GIS maps can contain more specific and detailed information than OS maps (✓) You can add information to a GIS map about shopping/restaurants/services when required which you cannot do with an OS map (✓) You can remove information that is not required with a GIS map which you cannot do with an OS map (✓)	2	2 x 1 (✓)
	(c)		Differences within regions, can be hidden by the shading (✓) Map does not distinguish between urban and rural areas (✓) May suggest some areas have a high/low percentage, which actually do not (✓) Gives false impression of abrupt changes at the boundaries (✓)	2	2 x 1 (✓) Any two accurate reasons
	(d)		The vast majority of households in Bradford are owned (✓), with almost two-thirds (129 550 out of 198 081) of households being owned (DEV). The share of private rented households compared to socially rented households is fairly equal with a very small number categorised as living rent free (✓) (COM)	4	2 x 1 (✓) for describing the pattern of the types of households in Bradford 1 x 1 (DEV) for using data from the table 1 x 1 (COM) for communicating the answer in an appropriate and logical order

Question			Answer	Marks	Guidance
2	(a)		2000 to 2003 saw little change (✓) Steady increase from 2003 to 2008 (✓) Began to decline again after 2008 (✓) It increases but fluctuates over the time period (✓)	3	3 x 1 (✓) 'Increase/Decrease' alone is insufficient for credit – an **adjective** is required Allow tolerance on dates as long as the trends and general time periods are correct Statistics are not required and should not be credited without an interpretation referring to a change in fertility rate
	(b)		Net migration led to an increase of 1,500 people in Bradford in 2009-10 (✓) Most of the increase came from international migration (✓) Internal migration saw more people leave than arrive in Bradford (✓) The increase due to migration was less than that due to natural change (✓)	3	3 x 1 (✓)
	(c)		The increase in the population of Bradford projected between 2010 and 2033 could cause issues for housing as the extra people will need somewhere to live (✓). A greater number of people living in Bradford will place a lot of pressure upon its infrastructure with transport networks needing to be improved (✓). The rise in the number of older people will cause challenges for healthcare as the elderly visit their doctor more often and have more home visits (✓). A greater number of older people will also mean that leisure activities aimed at older people will need to be expanded (✓).	4	4 x 1 (✓) for analysing the challenges of the projected population change
	(d)	(i)	147 (✓)	1	(✓)
		(ii)	392 (✓)	1	(✓)
		(iii)	**Suggestions might include:** Use of proportional symbols (✓) Located bar charts (✓) Change of colours (✓)	1	(✓) One mark for appropriate improvement

Question			Answer	Marks	Guidance
		(iv)	**Level 3 (5–6 marks)** An answer at this level demonstrates a **thorough** understanding of the concepts of population increase and renewable energy (AO2) and applies their understanding to give a **thorough** analysis of how population increase in the city of Bradford could affect the demand for renewable energy projects (AO3). This will be shown by including **well-developed** ideas about the concepts of population increase and renewable energy **and** how population increase in the city of Bradford could affect the demand for renewable energy projects. There are clear and explicit attempts to make appropriate synoptic links between content from different parts of the course of study. **Level 2 (3-4 marks)** An answer at this level demonstrates a **reasonable** understanding of the concepts of population increase and renewable energy (AO2) and applies their understanding to give a **reasonable** analysis of how population increase in the city of Bradford could affect the demand for renewable energy projects (AO3). This will be shown by including **developed** ideas about the concepts of population increase and renewable energy **and** how population increase in the city of Bradford could affect the demand for renewable energy projects. There are attempts to make synoptic links between content from different parts of the course of study but these are not always appropriate. **Level 1 (1–2 marks)** An answer at this level demonstrates a **basic** understanding of the concepts of population increase and renewable energy (AO2) and	6	This question will be marked using 3 levels **Indicative content** For population increase answers may include focus on general population increase or specific elements of the population for example an ageing population or an increase in the number of young people (number of, not percentage of population). The implications of the population increasing could include an increased demand for homes, school building, technology parks, health centres. For the demand for renewable energy projects answers may focus on a number of elements such as an increase due to government policies (national and international) and the positives of renewable energy projects as opposed to non-renewable energy projects. Examples of **well-developed** ideas: Population increase could increase the demand for renewable energy projects in Bradford. More people means a greater strain on energy resources for services such as homes, schools and businesses across the city and renewable energy projects could be in more demand as they offer a cleaner more sustainable solution than the alternative non-renewable energy. Renewable energy projects could also help meet UK and EU targets for reductions in carbon emissions and the promotion of electricity and heat generation. On the other hand population increase may not affect the demand for renewable energy projects; it may just affect the demand for

Question			Answer	Marks	Guidance
			applies their understanding to give a **basic** analysis of how population increase in the city of Bradford could affect the demand for renewable energy projects (AO3). This will be shown by including **simple** ideas about the concepts of population increase and renewable energy **and/or** how population increase in the city of Bradford could affect the demand for renewable energy projects. There are no synoptic links between content from different parts of the course of study. **0 marks** No response or no response worthy of credit.		energy in general, which would be greater. Examples of **developed** ideas: Population increase means more people will be in Bradford and so more energy will be used. This will increase the demand for energy in general but in particular renewable energy projects could be in more demand they offer a cleaner and more sustainable solution than non-renewable energy. More projects will be set up in the Bradford area or projects like the 'Repower' scheme may grow even more. Examples of **simple** ideas: Population increase means more people in Bradford will be using energy and so more energy will be needed to meet this demand. Renewable energy projects will be under more demand.

Question			Answer	Marks	Guidance
3	**(a)**	**(i)**	A: North (✓)	**1**	(✓)
		(ii)	A: cross-section (✓)	**1**	(✓)
	(b)		7:1 (✓)	**1**	(✓)
	(c)		**Characteristics such as:** Problems with traffic/congestion (✓) Issues with air pollution (✓) Poor building quality (✓) Lack of sanitation (✓) There is a big traffic problem (✓) in one of the photographs which is a characteristic which shows that Lagos is a city in an LIDC. There are lots of cars stretching into the distance which can be an infrastructure issue (DEV) and the traders selling things to people in the traffic shows this is a regular occurrence as they were ready for them (DEV) which is more typical in LIDCs.	**3**	1 x1 (✓) for the identification of a characteristic from a city in an LIDC from the photograph 2 x 1 (DEV) for analysis to give reasons which relate the characteristic to cities in LIDCs
	(d)		Highest score in five different categories (✓) Only two categories with a score of one or below (✓) Overall score was the highest by eight points (✓) Greatest number of 3s (✓)	**3**	3 x 1 (✓)
	(e)*		**Level 3 (6–8 marks)** An answer at this level demonstrates a **thorough** understanding of challenges in cities in the UK and LIDCs or EDCs (AO2). There is a **thorough** evaluation of whether cities in the UK face challenges which are less serious than cities in LIDCs or EDCs with a **reasonable** judgement as to the extent to which the statement is agreed with (AO3). This will be shown by including **well-developed** ideas about the challenges of cities in the UK and LIDCs or EDCs. There are clear and explicit attempts to make appropriate synoptic links between content from different parts of the course of study. There is a well-developed line of reasoning which is clear and	**8**	**Indicative Content** Candidates need to make the link between the challenges in cities in LIDCs or EDCs and challenges in cities in the UK. The challenges in cities in the UK could include: affordable housing availability, transport provision, waste management, requirement for economic rejuvenation, loneliness. The challenges in cities in LIDCs or EDCs could include: informal settlements, traffic congestion, water management (access to clean water), electricity supplies (lack of infrastructure), waste disposal and pollution (water and air), crime.

Question	Answer	Marks	Guidance
	logically structured. The information presented is relevant and substantiated. **Level 2 (3–5 marks)** An answer at this level demonstrates a **reasonable** understanding of challenges in cities in the UK and LIDCs or EDCs (AO2). There is a **reasonable** evaluation of whether cities in the UK face challenges which are less serious than cities in LIDCs or EDCs with a **basic** judgement as to the extent to which the statement is agreed with (AO3). This will be shown by including **developed** ideas about the challenges of cities in the UK and LIDCs or EDCs. There are attempts to make synoptic links between content from different parts of the course of study but these are not always appropriate. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1 (1–2 marks)** An answer at this level demonstrates a **basic** understanding of challenges in cities in the UK and LIDCs or EDCs (AO2). There is a **basic** evaluation of whether cities in the UK face challenges which are less serious than cities in LIDCs or EDCs with **no** judgement as to the extent to which the statement is agreed with (AO3). This will be shown by including **simple** ideas about the challenges of cities in the UK and LIDCs or EDCs. There are no synoptic links between content from different parts of the course of study.		Examples of **well-developed** ideas: Cities in the UK and in LIDCs both have challenges surrounding housing, however they are different and it could be argued that LIDC's face more serious challenges. In LIDCs the challenges of informal settlements result from when large scale economic migration takes place as people move from rural areas in search of work but leads to unplanned, overcrowded and sometimes illegal developments which can lack adequate sanitation or water supply. In the UK the lack of affordable housing provides a challenge for the Government and for residents but not to the same degree as the housing challenges facing cities in LIDCs. However, it can be argued that there is greater community spirit in the LIDC informal settlements than in UK housing estates, and therefore the challenge of building social cohesion is far greater in the UK cities and it has been known for people to pass away in their home and go unnoticed for weeks or months. The challenges in UK cities therefore can't be directly compared to those in LIDC cities. Examples of **developed** ideas: The challenge of housing is greater for LIDC cities than for those in the UK. In LIDC cities informal settlements are the result of rural-urban migration. This leads to overcrowding and lack basic facilities such as water and sanitation. This leads to disease and can shorten life expectancy so is a great challenge. Cities in the UK also have problems with housing but this is more for the lack of affordable housing and long waiting lists for people that need social housing. This is not as bad as the challenge of

Question			Answer	Marks	Guidance
			The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. **0 marks** No response or no response worthy of credit.		informal settlements in LIDCs, although health and life expectancy are affected by poor housing in the UK it is not on the same scale as in LIDCs. Examples of **simple** ideas: There are challenges in UK cities and LIDC cities for housing but cities in LIDCs have much worse living conditions in the informal settlement where water and sanitation is a problem. Most homes in the UK have water piped to them so the challenge is greater in LIDCs.

Question			Answer	Marks	Guidance
4	(a)	(i)	Choices do not include units e.g. miles (✓) Some people may have travelled less than one (mile) or more than six (miles) (✓) Distances overlap with 2 miles in two boxes and 4 miles in two boxes (✓)	2	2 x 1 (✓)
		(ii)	How old are you? (✓). What method of transport do you use to visit the CBD? (✓) Why do you travel into the CBD? (✓)	1	1 x 1 (✓) for identification of appropriate question to adapt the students' questionnaire
	(b)			3	1 x 1 (✓) for correct answer 1 x 1 (DEV) for ordering the dataset 1 x 1 (DEV) for showing the working of the upper quartile value

(b)

Name of Car Park	Number of parking spaces
Burnett Street	116
Crown Court	180
Pine Street	60
Radwell Drive	105
Rawson Road	33
Sharpe Street	98
Simes Street	77
St Thomas	132
Tyson Street	110
Westgate	404
Wigan Street	43

Ordered dataset:

n	1	2	3	4	5	6	7	8	9	10	11
value	33	43	60	77	98	105	110	116	132	180	404

(DEV)

Question			Answer	Marks	Guidance
			Upper quartile = 3x(n+1) ÷ 4 th value (where n is the number of values in the dataset). n=11 3x(11+1) ÷ 4 = 36 ÷ 4 = 9th value 9th value = 132 (✓)		
	(c)		**Level 3 (5–6 marks)** An answer at this level demonstrates a **thorough** description of the selected suitable choice of data presentation and explanation of why this is a suitable presentation method to investigate the question (AO4). This will be shown by including **well-developed** ideas. **Level 2 (3–4 marks)** An answer at this level demonstrates a **reasonable** description of the selected suitable choice of data presentation and explanation of why this is a suitable presentation method to investigate the question (AO4). This will be shown by including **developed** ideas. **Level 1 (1–2 marks)** An answer at this level demonstrates a **basic** description of the selected suitable choice of data presentation and explanation of why this is a suitable presentation method to investigate the question (AO4). This will be shown by including **simple** ideas.	6	This question will be marked using 3 levels: **Indicative content** Expect a wide range of presentation techniques, those selected are likely to come from the list of cartographic and graphical skills set out in the specification. Examples might include bar graphs, proportional pie charts, line graphs, located graphs. Credit will be gained by the quality of the explanation offered, the support provided in evidence. An effective technique of presentation helps to interpret the data. Examples of **well-developed** ideas: Students could draw located bar charts on a base map of Bradford city centre, with a key to represent the scale and type of traffic. This would help to visualise the findings as you would be able to see the location of a particular set of data and relate it to the characteristics of the area in question. Examples of **developed** ideas: Students could draw located bar charts which display the information on the table in a series of bar charts

Question			Answer	Marks	Guidance
			0 marks No response or no response worthy of credit.		on a base map. This would be good as you could see where the different traffic levels were for the different types of traffic. Examples of **simple** ideas: Students could draw bar charts to show how much traffic there was at each location. This would let you compare the types of traffic.
	(d)*		**Level 3 (6–8 marks)** An answer at this level demonstrates a **thorough** analysis (AO3) of the data provided with justification from all sources of information which is linked together to reach a **thorough** conclusion (AO3). This will be shown by including **well-developed** ideas. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. **Level 2 (3–5 marks)** An answer at this level demonstrates **reasonable** analysis (AO3) of the data provided with justification from some of the sources of information which is linked together to reach a **reasonable** conclusion (AO3). This will be shown by including **developed** ideas. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1 (1–2 marks)** An answer at this level demonstrates **basic** analysis (AO3) of the	8	This question will be marked using 3 levels: **Indicative content** Reach a conclusion based on analysis of evidence from the information provided. Statistics from the information should be used as evidence Justification of conclusion through analysed evidence Examples of **well-developed** ideas: The data suggests that traffic congestion was thought to be a problem every day with 73% of people suggesting this. However another question suggests that it is a particular problem on Mondays and weekends (44% and 28%) which leads me to the conclusion that congestion is a particular problem on certain days of the week. Examples of **developed** ideas: The data suggests that people thought congestion was a bigger problem on Mondays and at the weekend. This supports the view that congestion is worst on certain days of the week.

Question			Answer	Marks	Guidance
			data provided with justification from some sources of information which is linked together to reach a **basic** conclusion (AO3). This will be shown by including **simple** ideas. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. **0 marks** No response or no response worthy of credit.		Examples of **simple** ideas: I think that congestion is a big problem on Mondays and Fridays as this is what most people in the survey said.
		🖉	Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.	**3**	

Question			Answer	Marks	Guidance
5	**(a)**		Key Question 'The River Ouse widens from source to mouth'. This is a suitable key question as processes such as corrosion and hydraulic action cause erosion of the river banks which widens the river (✓) and leads to an increase in velocity from source to mouth (✓) causing greater erosion. This will help me answer the overall question of whether the River Ouse follows the Bradshaw Model (✓) by investigating one of the characteristics of a how a river varies between the upper course and lower course of a river (✓).	**4**	4 x 1 (✓) Marks for justification of why question was suitable. There are no marks for stating the key question/hypothesis and so if a candidate does not write their key question or hypothesis in the space provided it does not affect their mark.
	(b)		**Level 3 (5–6 marks)** An answer at this level demonstrates a **thorough** evaluation of a suitable primary data collection method (AO3) with a **reasonable** judgement as to its success a method of primary data collection (AO3). This will be shown by including **well-developed** ideas. **Level 2 (3–4 marks)** An answer at this level demonstrates a **reasonable** evaluation of a suitable method of primary data collection (AO3) with a **basic** judgement of its success (AO3). This will be shown by including **developed** ideas. **Level 1 (1–2 marks)** An answer at this level demonstrates **basic** evaluation of a primary data collection method (AO3) with a **basic** judgement of its success (AO3). This will be shown by including **simple** ideas. **0 marks** No response or no response worthy of credit.	**6**	This question will be marked using 3 levels: **Indicative content** Evaluation of the success of the selected data collection method, this could include both the positive and negative reflections of this method, allowing the candidate to make a judgement on its success Examples of **well-developed** ideas: We measured the velocity of the river at different locations along the river course; we did this five times and took a mean at each location which increased the accuracy of the results, this was important to produce more secure analysis and conclusions. However a limitation is that at times the float used to measure velocity got caught in the stones in the river bed, this meant that human intervention was required and would have affected the final mean. This was an effective method as I was able to compare the velocity at different points along the river which helped my understanding of how the river changes from source to mouth and this helped us to answer our key enquiry questions. Examples of **developed** ideas:

Question			Answer	Marks	Guidance
					We measured the velocity of the river; we did this five times and took a mean at each location to increase the accuracy of the results. This was an effective method as I was able to compare the velocity at different points along the river which helped answer the overall question. However at times the float used to measure velocity got caught in the stones in the river bed, and this would have affected the final mean which made the results worse. Examples of **simple** ideas: We floated an orange down the river and timed how long it took. This worked well as we could work out the rivers' speed which helped us answer our enquiry question.

APPENDIX 1

Spelling, punctuation and grammar and the use of specialist terminology (SPaG) assessment grid*

High performance 3 marks
• Learners spell and punctuate with consistent accuracy • Learners use rules of grammar with effective control of meaning overall • Learners use a wide range of specialist terms as appropriate
Intermediate performance 2 marks
• Learners spell and punctuate with considerable accuracy • Learners use rules of grammar with general control of meaning overall • Learners use a good range of specialist terms as appropriate
Threshold performance 1 mark
• Learners spell and punctuate with reasonable accuracy • Learners use rules of grammar with some control of meaning and any errors do not significantly hinder overall • Learners use a limited range of specialist terms as appropriate
0 marks
• The learner writes nothing • The learner's response does not relate to the question • The learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning

Assessment Objectives (AO) grid

Question	AO1	AO2	AO3	AO4	Marks	SPaG
1(a)(i)				1	1	
1(a)(ii)				1	1	
1(b)(i)				1	1	
1(b)(ii)				2	2	
1(c)				2	2	
1(d)				4	4	
2(a)				3	3	
2(b)				3	3	
2(c)			4		4	
2(d)(i)				1	1	
2(d)(ii)				1	1	
2(d)(iii)				1	1	
2(d)(iv)		3	3		6	
3(a)(i)				1	1	
3(a)(ii)				1	1	
3(b)				1	1	
3(c)			2	1	3	
3(d)			3		3	
3(e)		3	5		8	
4(a)(i)			2		2	
4(a)(ii)				1	1	
4(b)				3	3	
4(c)				6	6	
4(d)			8		8	3
5(a)			4		4	
5(b)			6		6	
Total		6	37	34	77	3

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